

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) An isolated structural protein of adeno-associated virus 2 (AAV2), which comprises at least one mutation, wherein the mutated structural protein comprises ~~one or more amino acid insertion(s)~~ an insertion of amino acids which bring(s) about an increase in the infectivity of an adeno-associated virus (AAV) having the mutated structural protein, wherein the ~~one or more~~ insertion(s) is/are located directly adjacent to and after the amino acid “N” in LQRGN RQAAT (SEQ ID NO: 7), and wherein said mutated structural protein is capable of particle formation.

2-34. (Cancelled)

35. (Currently amended) The structural protein according to Claim 1, wherein the ~~one or more amino acid~~ insertions comprises at least one of a cell membrane receptor ligand, a Rep protein or a Rep peptide, or an immunosuppressive protein or an immunosuppressive peptide.

36. (Previously presented) The structural protein according to Claim 35, wherein the ligand is selected from an integrin, a cytokine, a receptor-binding domain of a cytokine, a receptor-binding domain of an integrin, a receptor-binding domain of a growth factor, a single-chain antibody that binds to a cell surface receptor, an antibody against cell surface structures, an antibody-binding structure, an antibody-binding epitope, a ligand which binds via its charge, a ligand that binds via the type of amino acids, a ligand that binds via its specific glycosylation, or a ligand that binds via phosphorylation to cell surface molecules.

37. (Previously presented) The structural protein according to Claim 1, wherein the structural protein is a component of an AAV particle.

38. (Previously presented) The structural protein of Claim 37, wherein the structural protein is a component of an AAV capsid.

39. (Currently amended) An isolated nucleic acid coding for a structural protein of adeno-associated virus 2 comprising at least one mutation, wherein the mutated structural protein comprises ~~one or more amino acid insertion(s)~~ an insertion of amino acids which bring(s) about an increase in the infectivity of an adeno-associated virus (AAV) having the mutated structural protein, wherein the ~~one or more~~ insertion(s) is/are located directly adjacent to and after the amino acid "N" in LQRGN RQAAT (SEQ ID NO: 7), and wherein said mutated structural protein is capable of particle formation.

40. (Currently amended) An isolated cell comprising a the nucleic acid of Claim 39.

41. (Currently amended) A process for the preparation of a mutated structural protein of adeno-associated virus 2 (AAV2), the process method comprising of cultivating a cell comprising a nucleic acid coding for a structural protein of adeno-associated virus 2 comprising at least one mutation, wherein the mutated structural protein comprises ~~one or more amino acid insertion(s)~~ an insertion of amino acids which bring(s) about an increase in the infectivity of an adeno-associated virus (AAV) having the mutated structural protein, wherein the ~~one or more~~ insertion(s) is/are located directly adjacent to ~~at least one amino acid in a sequence selected from the group consisting of YKQIS SQSGA (SEQ ID NO: 2), YLTLN NGSQA (SEQ ID NO: 3), YYLSR TNTPS~~

~~(SEQ ID NO: 4), EEKFF PQSGV (SEQ ID NO: 5), NPVAT EQYGS (SEQ ID NO: 6),~~
and after the amino acid "N" in LQRGN RQAAT (SEQ ID NO: 7), and~~NVDFT VDTNG~~
~~(SEQ ID NO: 8),~~ and wherein said mutated structural protein is capable of particle
formation; and isolating the expressed mutated structural protein.

42. (Currently amended) A method for altering the tropism of AAV2, the method
comprising cultivating an isolated cell which comprises an AAV2 nucleic acid coding for
a mutated structural protein, ~~of~~ wherein the mutated structural protein comprises ~~one or~~
~~more amino acid insertion(s)~~ an insertion of amino acids which bring(s) about an
increase in the infectivity of an AAV having the mutated structural protein, wherein the
~~one or more insertion(s) is/are~~ located directly adjacent to ~~at least one amino acid in a~~
~~sequence selected from the group consisting of YKQIS SQSGA (SEQ ID NO: 2),~~
~~YLTLNNGSQA (SEQ ID NO: 3), YYLSR TNTPS (SEQ ID NO: 4), EEKFF PQSGV~~
~~(SEQ ID NO: 5), NPVAT EQYGS (SEQ ID NO: 6),~~ and after the amino acid "N" in
LQRGN RQAAT (SEQ ID NO: 7), and~~NVDFT VDTNG (SEQ ID NO: 8),~~ and wherein
said mutated structural protein is capable of particle formation; and isolating the AAV2
particle produced by the cell.

43. (Cancelled).

44. (Currently amended) An isolated structural protein of adeno-associated virus
2, which comprises ~~one or more amino acid insertion(s)~~ an insertion of amino acids
located directly adjacent to and after the amino acid "N" in ~~at least one amino acid in the~~
~~sequence selected from the group consisting of YKQIS SQSGA (SEQ ID NO: 2),~~
~~YLTLNNGSQA (SEQ ID NO: 3), YYLSR TNTPS (SEQ ID NO: 4), EEKFF PQSGV~~
~~(SEQ ID NO: 5), NPVAT EQYGS (SEQ ID NO: 6), LQRGN RQAAT (SEQ ID NO: 7),~~
~~and NVDFT VDTNG (SEQ ID NO: 8).~~

45. (Cancelled)

46. (Currently amended) The structural protein according to Claim 44, wherein the insertion(s) comprises at least one of a cell membrane receptor ligand, a Rep protein or a Rep peptide, or an immunosuppressive protein or an immunosuppressive peptide.

47. (Previously presented) The structural protein according to Claim 46, wherein the ligand is selected from an integrin, a cytokine, a receptor-binding domain of a cytokine, a receptor-binding domain of an integrin, a receptor-binding domain of a growth factor, a single-chain antibody that binds to a cell surface receptor, an antibody against cell surface structures, an antibody-binding structure, an antibody-binding epitope, a ligand which binds via its charge, a ligand that binds via the type of amino acids, a ligand that binds via its specific glycosylation, or a ligand that binds via phosphorylation to cell surface molecules.

48. (Currently amended) An isolated nucleic acid coding for a structural protein of ~~of~~ adeno-associated virus 2 comprising ~~one or more amino acid insertion(s)~~ an insertion of amino acids located directly adjacent to and after the amino acid "N" in at ~~least one amino acid in a sequence selected from the group consisting of~~ YKQIS SQSGA (SEQ ID NO: 2), YLTLN NGSQA (SEQ ID NO: 3), YYLSR TNTPS (SEQ ID NO: 4), EEKFF PQSGV (SEQ ID NO: 5), NPVAT EQYGS (SEQ ID NO: 6), LQRGN RQAAT (SEQ ID NO: 7), ~~and NVDFI VDTNG (SEQ ID NO: 8).~~

49. (Cancelled)

50. (Currently amended) An isolated cell comprising a the nucleic acid of

Claim 48 ~~or 49~~.

51. (Currently amended) A process for the preparation of a mutated structural protein of adeno-associated virus 2 (AAV2), the ~~process method~~ comprising of cultivating a cell comprising a nucleic acid coding for a structural protein of adeno-associated virus 2 comprising ~~one or more amino acid insertion(s)~~ an insertion of amino acids located directly adjacent to and after the amino acid "N" in at least one amino acid ~~in a sequence selected from the group consisting of YKQIS SQSGA (SEQ ID NO: 2), YLTLNNGSQA (SEQ ID NO: 3), YYLSR TNTPS (SEQ ID NO: 4), EEKFF PQSGV (SEQ ID NO: 5), NPVAT EQYGS (SEQ ID NO: 6), LQRGN RQAAT (SEQ ID NO: 7), and NVDFT VDTNG (SEQ ID NO: 8);~~ and isolating the expressed mutated structural protein.

52. (Cancelled)